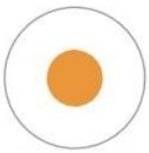
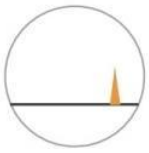
SPD500 series Si-APD Detector module

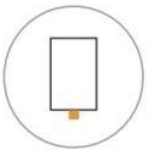
SPD500 is an ultra sensitive photodetector based on Si APD. The detection band covers 200-1060 nm and can operate in linear mode and Geiger mode. Gain exceeds 60 dB in Geiger mode. The SPD500's unique high-performance active suppression circuit enables continuous single photon detection and can load detection gates of any width and period. This circuit achieves avalanche suppression greater than 20 dB, thereby maximizing the performance of SPD500. The detection efficiency in the 700 nm band exceeds 60%, with a dark count of 200-500 CPS and the dead time of less than 50 ns.



Single photon sensitivity



Low Dark Count



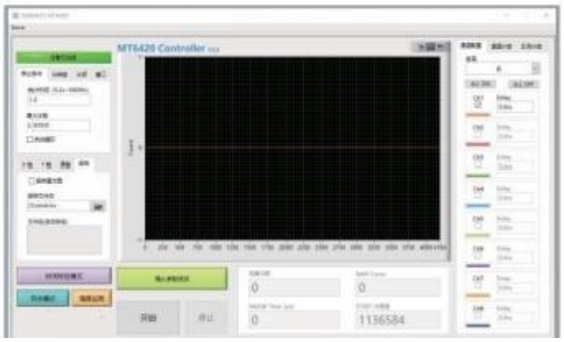
High reliability

Parameter	Mminimum value	Typical values	Maximum value	Unit
Supply voltage		12		V
Supply current		0.5		A
Spectral Range	200		1060	nm
Detection efficiency @200 nm @700 nm @850 nm @1060 nm		2 / 65 45 3		%
Dark count	200		500	cps
Dead time		50		ns
Afterpulse	3	5	8	%
Saturation count rate*2		10	15	Mcps
Photosensitive area		500		μm
APD Cooling temperature		-20		°C
Operating temperature	-15		50	°C
Output signal level standard		LVTTL		
Output signal pulse width	5	30		ns
Gate pulse input level Disable = LVTTL low Enable = LVTTL high	0 / 2		0.4 / 3.3	v
Gate pulse frequency			5000	kHz
Power consumption		5	8	W

2.该值为默认设置下的结果，改变输出脉宽或死时间会改变饱和计数率。

SPD500 series Si-APD Detector module

Software interface



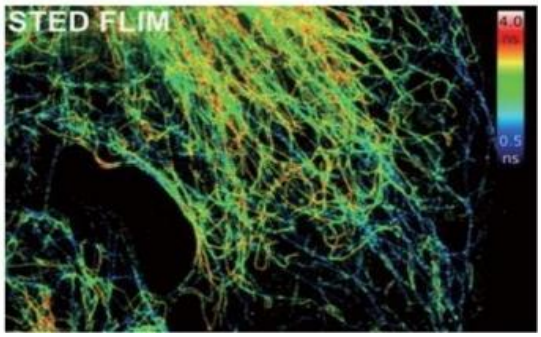
Main program interface

Complies with counting function

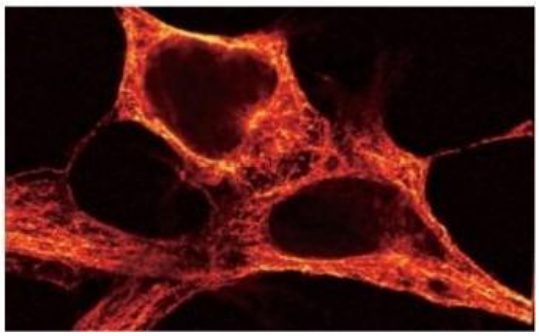
Time tag function

Intensity observation function

Application Cases

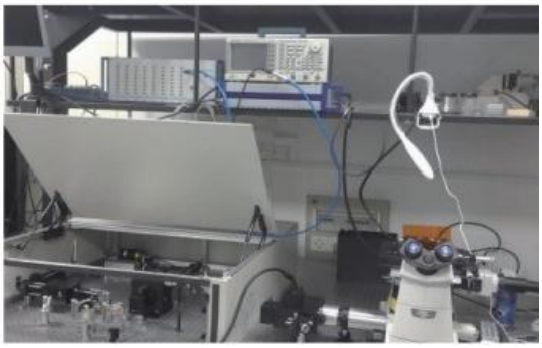


STED microscopy imaging



Instrument scanning HEK cell map

Quantum communication



Fluorescence lifetime measurement

Shanghai Goptica Co.,Ltd
CHINA . SHANGHAI
www. goptica.com

Tel：+86 150 0085 3620
Email：sales@goptica.com
Address：2nd Floor, No. 46 Guokang Road,
Yangpu District，Shanghai, 200433 PRC